

## **SOLID WASTE MANAGEMENT**

### **ISSUES**

The Fairfax County Department of Public Works and Environmental Services, Office of Waste Management, is comprised of several divisions, two of which concern collection and disposal of waste: the Division of Disposal and Resource Recovery and the Division of Collection and Recycling. Issues related to both of these functions are discussed below, however the program projects are primarily concerned with disposal and resource recovery.

Refuse collection and recycling services are provided to all citizens of Fairfax County by either private contractors or County collection crews. Private contractors presently account for 87 percent of refuse collected. The remaining 13 percent are collected by County collection crews. The County also provides refuse collection services to all County agencies (except schools), and operates the Solid Waste Reduction and Recycling Centers (Parkout) program on Saturdays. Additionally, the County provides leaf collection services to participating neighborhoods.

In order to provide the County with a long-term solution to refuse disposal, an Energy Resource Recovery Facility was constructed at the site of the I-95 Landfill. This facility, which is privately owned and operated, began commercial operation on June 1, 1990, and has a design capacity of 3,000 tons per day (TPD). The total capital cost of the facility, not including financing charges, underwriters fees, and construction of utilities was \$195,000,000, which was financed through the sale of bonds and the owner's capital. The County, in January 1996, authorized construction of a non-ferrous metal recovery system at the Energy Resource Recovery Facility. These metals are "non-magnetic" and were not recovered from the original magnetic recovery system. Typical metals that are now recovered include copper, aluminum, and other non-magnetic metals.

Covanta Systems of Fairfax constructed the system at no cost to the County, as the sale of the additional non-ferrous scrap would pay for the construction and operational costs of the additional equipment. Covanta estimated that the capital costs for this system was approximately \$3 million. The non-ferrous metals recovery system became operational in October 1997.

Covanta has constructed additional air pollution control equipment at the Energy/Resource Recovery Facility to comply with provisions of the Clean Air Act. Mercury removal system and nitrogen oxide removal systems are now operational. The capital cost for the air pollution systems was \$7.75 million, and was funded through bonds originally purchased for the facility.

Currently the County operates three permitted solid waste management facilities, the I-95 Sanitary Landfill, the Energy Resource Recovery Plant and the I-66 Transfer Station. The County was granted permits for all three facilities by the Virginia Department of Environmental Quality. The I-95 Landfill and the Energy Resource Recovery Plant are located on land owned by the Federal Government. The I-95 Landfill is the only sanitary landfill in the County and provides land disposal for ash originating in the County, the City of Alexandria, Arlington County, and the cities and towns of Vienna, Fairfax, Falls Church, Herndon, and Clifton.

The I-66 Transfer Station has been operational since 1983 at the site of the I-66 Landfill, which was closed in December 1982. Refuse deposited by collection vehicles is loaded into tractor-trailer trucks and transported 29 miles to the I-95 Energy/Resource Recovery Facility for disposal.

Based upon growth, which occurred in the County, and changes in handling recycled products, the County completed an expansion of the station in 1997. The expansion added approximately 36,000 square feet of disposal area within 11 enclosed bays.

The municipal solid waste portion of the I-95 Sanitary Landfill stopped accepting waste after December 1995. Ash disposal will continue at the I-95 Landfill in a separate lined ash monofill.

The County anticipates completing a new Solid Waste Management Plan, pursuant to new state requirements by mid 2004. The plan will review current procedures as well as analyze future waste disposal issues of Fairfax County.

### PROGRAM GOALS

The primary goals of the Solid Waste Management program are:

1. To provide efficient and economical refuse collection, recycling and disposal services.
2. To provide facilities for the sanitary, efficient and economical reception and transportation of solid waste generated in Fairfax County.
3. To reduce the volume of solid waste stream through the implementation of recycling and waste reduction programs.
4. To provide for the operation of sanitary waste disposal facilities, utilizing the most economically viable and environmentally acceptable methods available.
5. To provide regulatory oversight of the County's ordinances regarding solid waste.

### COMPREHENSIVE PLAN GUIDANCE

The Policy Plan's primary objectives regarding solid waste emphasize the need for an efficient solid waste management system that is cost effective and environmentally sound, as well as land use objectives to safeguard against incompatible uses.

### CURRENT PROGRAM SUMMARY

Nine projects, totaling \$118,587,000, are included for Solid Waste Management. These projects are typically ongoing projects, and span a period of many years. The Capital Projects associated with Solid Waste Management have been funded entirely through tipping fees from commercial and residential customers.

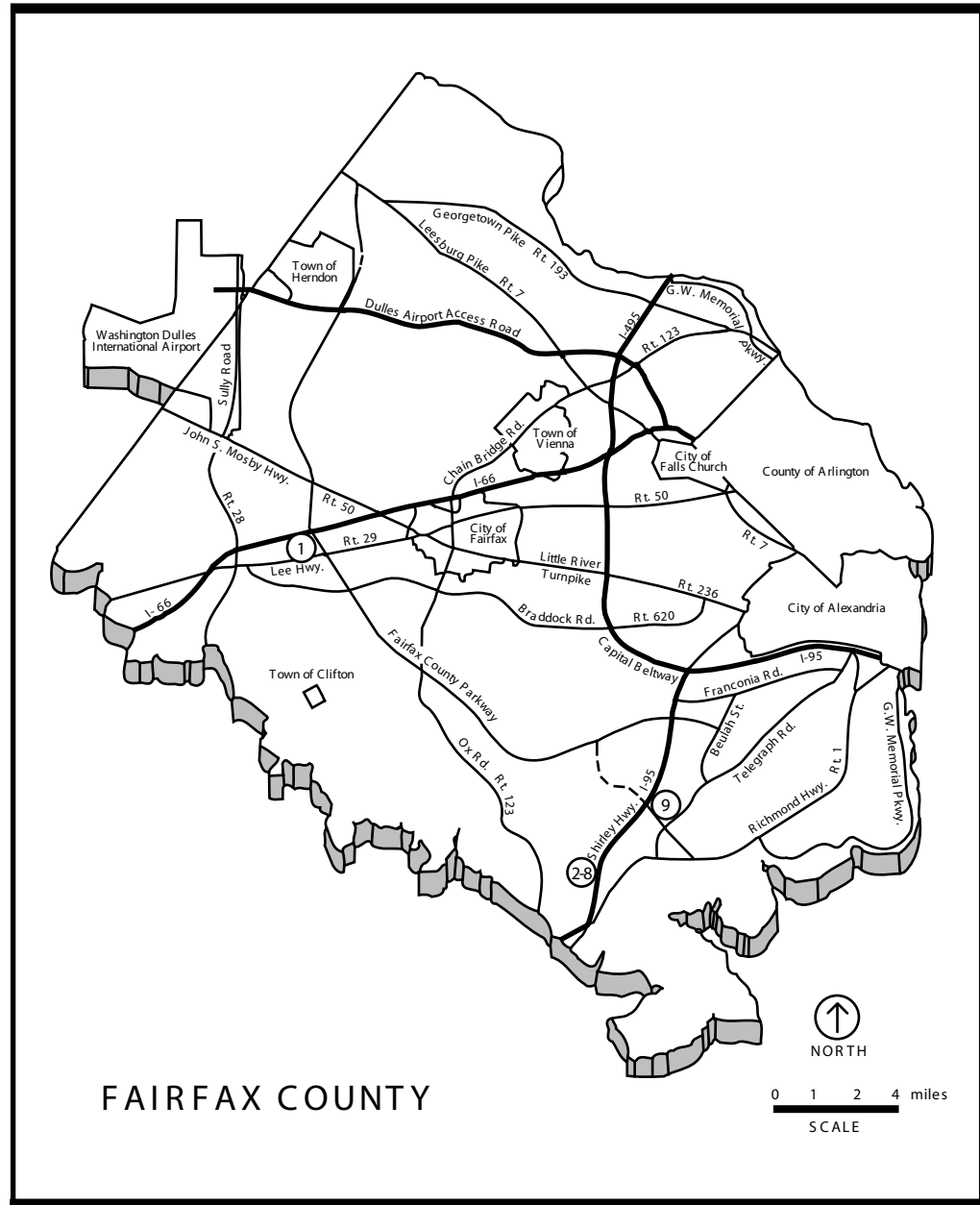
1. **Transfer Station Expansion.** \$13,115,000 for the expansion of building and miscellaneous repairs to the old portion of the original transfer station building. The original project began in 1988 with a feasibility project to examine the need, location and size of a new transfer station. As a result, a Citizens Recycling and Disposal facility was completed in 1993, and tipping building expansion was completed in 1997.
2. **I-95 Landfill Liner Area 3.** \$34,877,000 for the ash containment flexible membrane liner. Phase I and Phase II A funded at \$18,377,000 have been completed. Funding of \$8,000,000 is included for Phase II B and an estimate of funding for \$8,500,000 is included for Phase IIIA. The Phase III estimate is conservative, and will require further evaluation based upon construction techniques available for synthetic membrane systems. Phase IV of the project is not covered during this planning period. Total project funding will occur through circa 2015.
3. **I-95 Leachate Facility.** \$2,921,000 for a leachate pretreatment/treatment facility to process fluids collected from liner systems at the Landfill. This project is in the interim design stage, pending analysis of leachate characteristics.
4. **I-95 Landfill Road Construction.** \$1,642,000 for the various haul roads essential at the I-95 Landfill for truck traffic to access the Area 3 Lined Landfill, and final portions of the existing Municipal Solid Waste Landfill. The main entrance road project was completed in 1991.

5. **I-95 Landfill Perimeter Fence.** \$248,000 for the construction of fencing enclosing the perimeter area of the I-95 Landfill.
6. **I-95 Paved Ditch Extension.** \$1,624,000 for drainage improvements for the intermediate slopes of the I-95 Landfill to control erosion. This work involves placing armored ditches on side slope areas and stormwater pipes at bench crossings.
7. **I-95 Landfill Closure.** \$61,189,000 to meet all state and federal regulations regarding the closure of the I-95 Landfill. This project will involve six individual phases. The CIP total includes four phases, which will close the existing municipal solid waste portion of the Landfill with a flexible membrane liner material to “seal” the Landfill from external sources. Two additional phases of closure will occur for the ash landfill unit, but are beyond the planning period. Phases I and II of Closure have been completed. Closure Plans have been submitted to the Virginia Department of Environmental Quality (VDEQ) for approval of Phase III and IV closure. The closure of Phase III and IV will occur after VDEQ’s approval.
8. **Methane Gas Recovery.** \$2,603,000 to capture methane gas generated from the Landfill by means of collection wells and pipes. The project is also a multi-phase project. As an additional benefit, a portion of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Virginia Power. A pipeline that runs between the I-95 Landfill and the Noman Cole Jr. Treatment Plant to convey excess landfill gas to the treatment plant for use as a fuel was completed during the summer of 1997.
9. **Newington Vehicle Facility Expansion.** \$368,000 for the design and construction of a conference/training room by expanding an existing break room at the Newington Solid Waste Vehicle Operations Facility. This facility is the operations headquarters of the Division of Solid Waste Collection and Recycling, and requires a larger conference/training room to accommodate

employees. Design is underway. A public Hearing is being scheduled. Construction anticipated in the summer of 2002.

## Solid Waste

1. I-66 Transfer Station Expansion
- 2-8. I-95 Landfill Projects
9. Newington Vehicle Facility Expansion



**PROJECT COST SUMMARIES  
SOLID WASTE MANAGEMENT  
(\$000's)**

PROJECT TITLE/NUMBER (FUNDING SOURCE)/1		TOTAL PROJECT COST /2	AUTHORIZED/ EXPENDED THRU FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	TOTAL FY2003-FY2007	TOTAL FY2008-FY2012	ADDITIONAL NEEDED
1. Transfer Station Expansion/ 174002	(X)	\$13,115	\$13,115								
2. I-95 Landfill Liner Area 3/ 186435	(X)	34,877	18,377		8,000				8,000	8,500 /4	16,500
3. I-95 Leachate Facility/ 186440	(X)	2,921	2,921								
4. I-95 Landfill Road Construction /3	(X)	1,642	1,642								
5. I-95 Landfill Perimeter Fence/ 186455	(X)	248	248								
6. I-95 Landfill Paved Ditch Extension/ 186470	(X)	1,624	1,174		450				450		450
7. I-95 Landfill Closure/ 186650	(X)	61,189	46,589		4,100				4,100	10,500	14,600
8. Methane Gas Recovery Recovery/ 186600	(X)	2,603	2,603								
9. Newington Vehicle Expansion/ 109001	(X)	368	368								
<b>TOTAL</b>		<b>\$118,587</b>	<b>\$87,037</b>		<b>\$12,550</b>				<b>\$12,550</b>	<b>\$19,000</b>	<b>\$31,550</b>

/1 X = Other.

/2 Total Project Cost does not include costs beyond 2006 except for the I-95 Landfill Liner Area 3 / 186435 and I-95 Landfill Closure/ 186650 projects.

/3 Includes project 186450 and 186460, I-95 landfill Road Construction and Area 7 Road Construction.

/4 This estimate is specifically for the 3rd Phase of the Ash Lined Landfill. It requires refinement and further review